US Army Corps
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Great Lakes &
Ohio River Division

Achieving Navigation Systems
Acceptable Levels of Risk

Navigation Asset Management
Optimizing the Nation's Investments

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of Engineers
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Topics

- Budgeting Process Goals
- Asset Management Approach
- System Performance
- Assessments and Process Uniformity
- Risk Levels
- Construction Investments

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Budgeting Process Goals

Key goals…

- System reliability & efficiency
- Program Integrity
- Optimized risk-based maintenance
- Optimized construction investments

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Budgeting Process Goals

Key objectives…

- Align with FYDP risk-reduction measures
- Recommend upon economic & life safety impacts
- Develop by major systems ORS & GL
- Prioritize by algorithm; verify by experts
- Tie budget to Acceptable Levels of Performance

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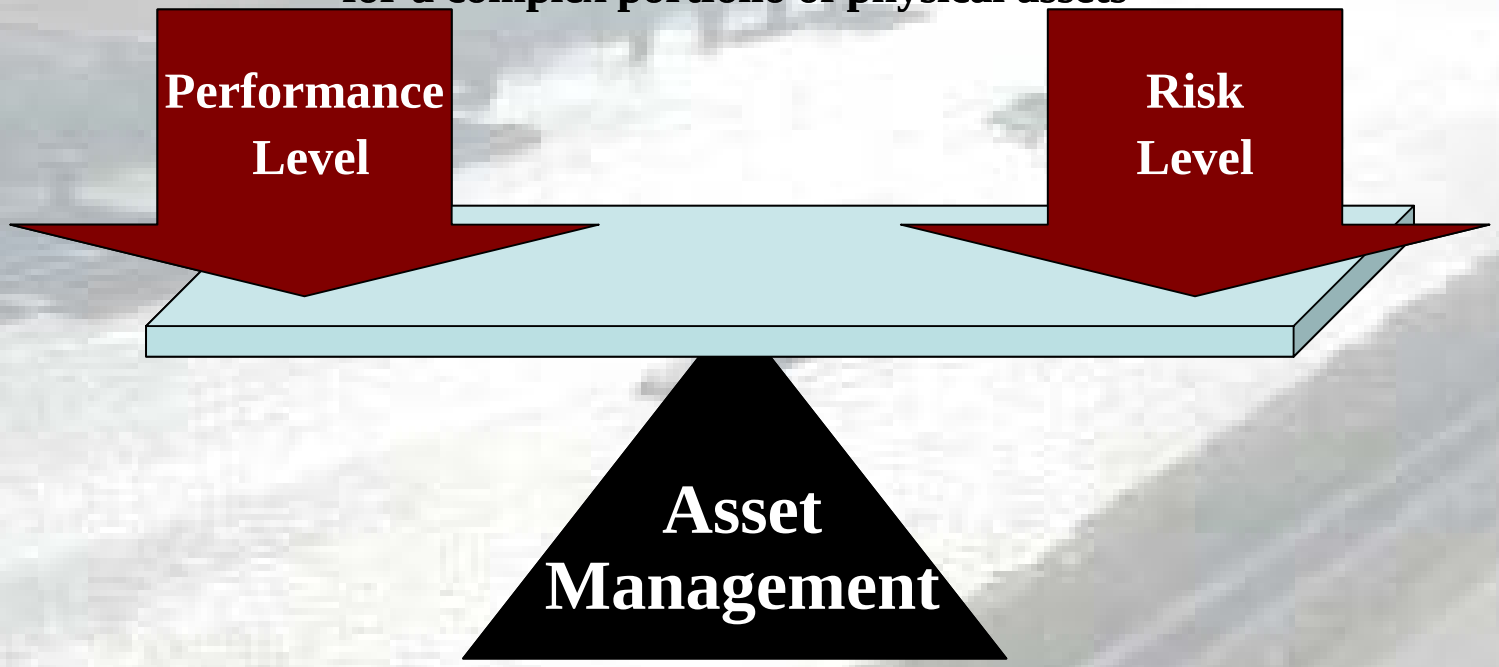
Asset Management Approach

Asset Management Goal

Optimize both the long-term and day-to-day performance, considering when to make investments, for a complex portfolio of physical assets



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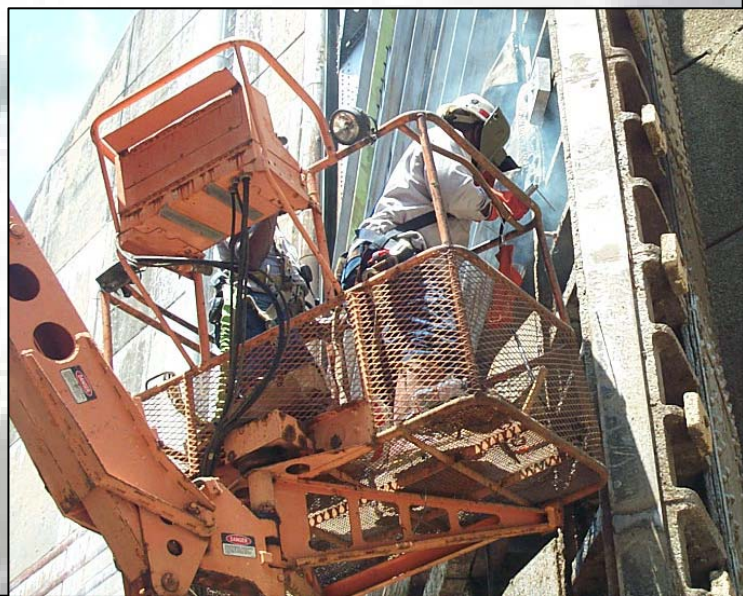
Asset Management Approach

Investments to buy down risk…

- Improve performance
- Reduce long-term costs
- Justify investments based on mission impacts
- Process driven by measurable metrics
- Maximize return on investment



Miter gate repair

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Asset Management Approach

Annual budget is integral with
Five Year Development Perspective…

- **One step to buy down risk**
- **Integrated with 5-year risk planning**
- **All Civil Works Infrastructure**
- **Budget is linked to System Performance**

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Acceptable Reliability Performance Standards

A — Virtually no compromise to authorized Federal project features accepted.

B — Minimal compromise to authorized Federal project features accepted. There is a small probability that degraded conditions may result in inefficient operations i.e., slower and/or more costly navigation operations.

C — Moderate compromise to authorized Federal project features accepted. There is a high probability that degraded conditions may result in inefficient operations, i.e., slower and/or more costly navigation operations.

D — Significant compromise to authorized Federal project features accepted. Closures of seven or more days are scheduled annually.

F — Extreme compromise to authorized Federal project features accepted. Closures of at least two weeks are scheduled annually.

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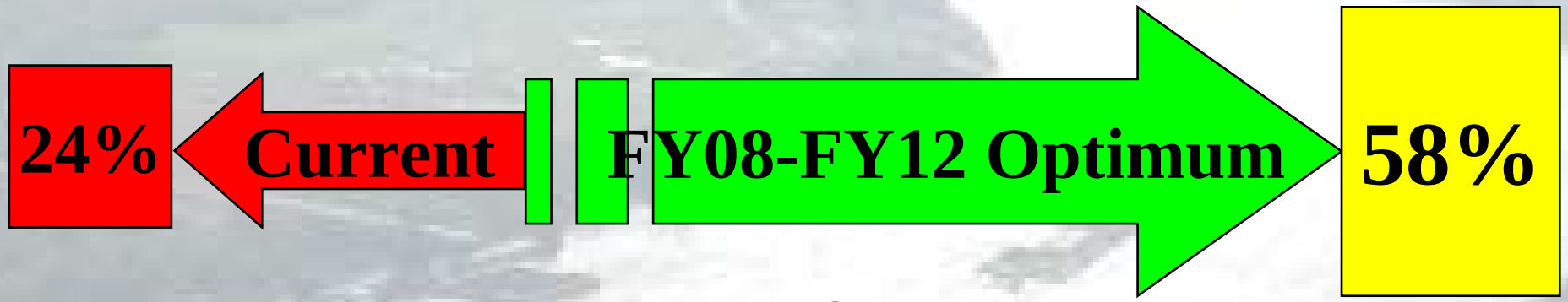
System Performance

Ohio River Navigation performance…



With Optimum O&M funding FY08-FY12, Ohio River Navigation System project sites at Acceptable Performance Levels are predicted to be <u>at least doubled</u>

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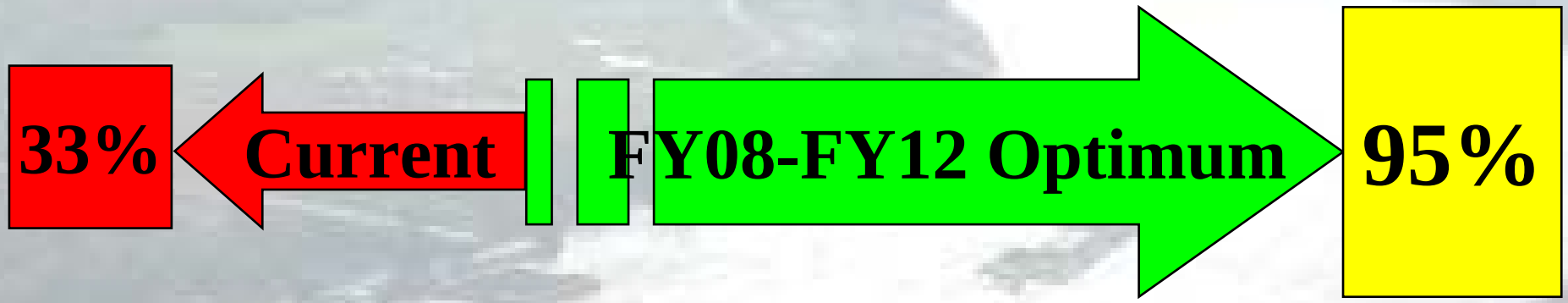
System Performance

Great Lakes Navigation performance…



With Optimum O&M funding for dredging, Great Lakes Navigation System project sites are predicted to reach Acceptable Performance Levels

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Economic Assessments

Journey to assess economic impacts…

- NED benefits incremental approach
- $ due to days unscheduled lock unscheduled closure
- $ due to depth of channel lacking due to shoaling
- Expenditures timing to preclude elevated risk
- More economics continuously planned ….

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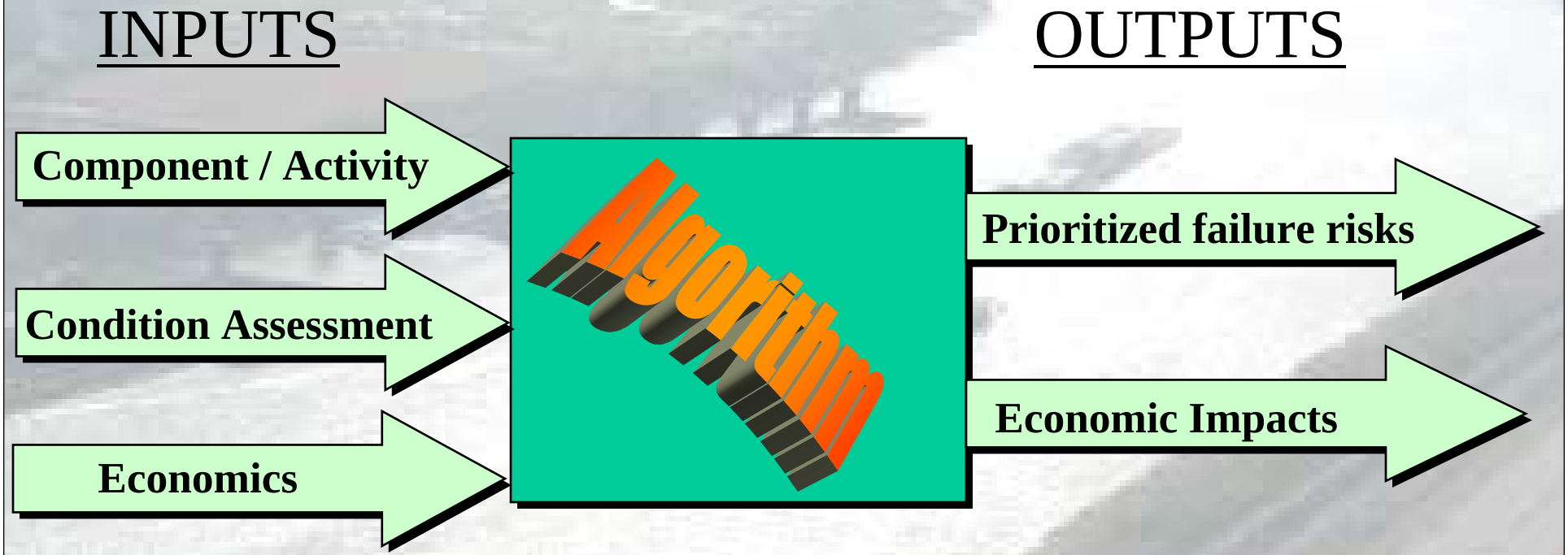
Process Algorithms

Uniformity of process…



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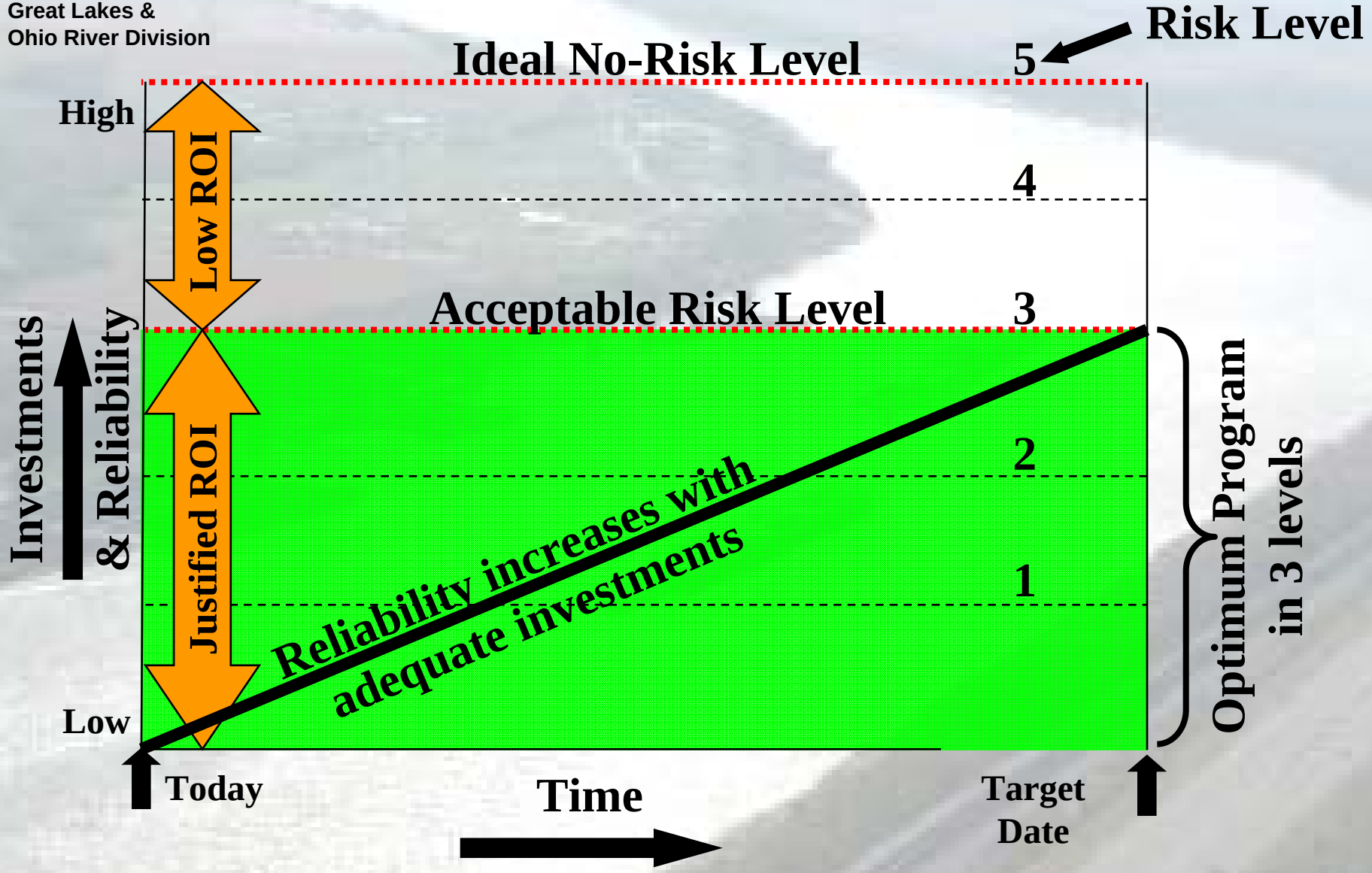
Risk Levels



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Construction Investments

Business model optimization…

- Lowest construction costs
- Shortest construction schedule
- Efficiently built infrastructure
- Benefits realized ASAP
- End-of-service life normal maintenance
- Uninterrupted construction start-to-finish
- Execution to cost and schedule

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Construction Investments

Business model issues…

- Delayed completions
- Escalated construction costs
- Foregone NED benefits
- Disruptions for CR funding delay
- Mismatched revenue – expenditure pattern
- Single-year contracting effects on schedule and cost
- Extended maintenance expense for replacements
- Unpredictable project workforce

Key Emphasis

- Funding by previous year levels ignores risks
- Integrating systems = same risk-based approach
- Economic & condition assessments are essential
- Optimized construction business model
- Optimum Program = Acceptable Levels of Risk

Contact:

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